Remarks

Claims 1-8 are pending in the instant application. Claims 1-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ohsumi et. al. (US Patent No. 6815428) in view of Blanchard et. al. (Chemistry & Biology, 8, 2001, 627-633).

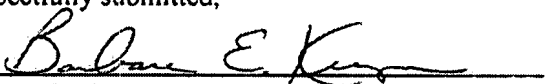
The Examiner stated that Blanchard et. al. discloses that the substitution of fluorine in sugar in either C2 or C5 positions can significantly slow the metabolism of glycosides. (Page 628, Column 1, Paragraph 3 to Column 2, Paragraph 1). The Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to make and use the compound of the instant application because the compound is a structural analog of the compounds disclosed for the treatment of diabetes by Ohsumi et. al. According to the Examiner, one of ordinary skill in the art would have been motivated to make and use the instant compound (Example 9 of Applicant's application) for the treatment of diabetes because the compound is a structural analog of those disclosed in Ohsumi et. al. and the substitution of the sugar moiety with fluorine is expected to slow metabolism of the compound without sacrificing the inhibitory efficacy. The Examiner concludes that one of ordinary skill in the art would have reasonably expected that the substitution of the sugar moiety with fluorine will result in substantially similar or better pharmaceutical efficacy.

Applicants respectfully disagree. Blanchard et. al. discloses glycosilation/deglycosilation reactions on ß-glycosidases. These enzymes are very different from SGLTs. The former are enzymes capable of cleaving glycosidic bonds as one step in the intestinal digestion process. SGLTs, on the other hand, are membrane transport proteins which transport sugars (i.e. glucose) across cell membranes. The function of each target enzyme is completely different.

Different enzymes have different recognition patterns for their target molecules. Blanchard et. al. disclose/suggest fluorine substitution close to the anomeric center of the sugar (i.e. C-2 or C-5 position in the sugar)(page 628, 3rd paragraph) in order to slow down or inhibit the activity of glycosidases. The compound(s) of the instant invention have a fluorine substituent in the 4-position (or 3-position) of the sugar which is the position most distant from the anomeric center. Blanchard et. al. do not teach or suggest whether or not 4-fluoro-glucose derivatives would be recognized by the target glycosidase or have the same desired effect. Therefore, one of ordinary skill in the art would not be motivated by Blanchard to conclude that substitution of fluorine in the 4- or 3-position of the sugar would yield compounds that had substantially similar or better inhibitory activity against SGLTs.

In view of the arguments herein, Applicants respectfully request that the rejection of Claims 1-8 be withdrawn.

Respectfully submitted,



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